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ABSTRACT

The study was conducted to determine the relationships among the attitudes held by 198 high school principals toward the work-study program and the handicapped, selected program variables, and background variables of interest. The research design entailed four phases: (1) selecting a sample of 100 high schools in Texas with work-study programs; (2) developing questionnaires; (3) collecting data from the principals on background information, attitudes toward the work-study program, and attitudes toward the handicapped; and (4) performing standard statistical analysis on the collected data and on data from the Research and Training Center study. Among conclusions were that high school principals had more positive attitudes toward normal persons than those who were classified as learning disabled and mentally retarded, with attitudes toward the retarded being the least positive; that background variables of high school principals were interrelated on a limited basis; and that variables most predictive of program effectiveness were role performance ratings of principals and attitudes toward work-study programs. (Tables with statistical data are provided.) (SBH)

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HIGH SCHOOL PRINCIPALS' ATTITUDES TOWARD THE HANDICAPPED AND THE WORK-STUDY PROGRAM

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INTRODUCTION

Over the past several years, the number of exceptional children receiving special services has increased at a phenomenal rate. For example, Manley (1971) reported that the growth in enrollment in special education rose approximately 500 percent between 1948 and 1966. Since 1966 the breadth and comprehensiveness of programs have continued to increase rapidly, due in part to litigation. The court cases of PARC v Pennsylvania and Mills v Board of Education, District of Columbia, upheld the rights of the handicapped and mandated that districts provide free education to these children, regardless of the cost incurred by the districts (Laski, 1974).

In spite of this continuing growth, many exceptional children are still not receiving the services that they need. Congress (Public Law 94-142) reported in 1975 that of the eight million handicapped children in the United States, more than half were not receiving appropriate educational services. Subsequently, Congress passed Public Law 94-142 requiring that all schools provide a free appropriate public education for all children, regardless of the severity of their handicapping condition. So, through mandates stemming from litigation and legislation exceptional children are to be served appropriately by the public schools.

Merely providing educational services to the handicapped is not sufficient since each child's educational program must be appropriately designed to meet his unique, individual needs. At the administrative level, organization and structure for these programs vary according to the educational needs of the particular handicapped group being served.

At the secondary level, high school work-study programs provide an administrative arrangement for serving the mildly handicapped student. Carroll (1967) notes that it is the most realistic approach available because it allows students to earn a high school diploma while receiving vocational training and supervision.

Several studies have shown that work-study programs contribute to later vocational adjustment skills for exceptional students (Harper, 1968; Zucker & Altman, 1973; Chafin, Spellman, Regan, & Davison, 1971; Brolin, Durand, Kromer & Muller, 1975; & Gregory, 1968). Although these studies found that students graduating from work-study programs possessed better vocational adjustment skills than those who had not, other studies are less encouraging as to the impact of work-study programs.

In the study conducted by Brolin et al. (1975) it was revealed that some members of the work-study group had less than good adjustment on the job, indicating that programming was less than optimal for some of the students. Also some controversy over the necessary components of a work-study program exists. Howe (1968), for example, found that off-campus work experience was not a prerequisite for vocational adjustment, even though this component of work-study programs is very common.

In addition to a lack of consensus concerning necessary program components, very little is known about how the total school environment affects the operation of work-study programs. For example, the attitudes of regular educators toward the handicapped may not be positive, thereby influencing their performance of roles important to providing special services. In the education of handicapped children, the attitudes of

those serving this group are extremely important, as indicated by Skrtic, Sigler, and Lazer (1975):

> Negative attitudes toward handicapped among professionals serving exceptional persons can be more harmful and crippling than any mental or physical state inherent to the exceptional individuals. (p. 171)

Moreover, several studies (Kingsley, 1967; Murphy, 1960) indicated that regular educators are less accepting of handicapped children than non-handicapped children. The attitudes principals and teachers have toward the handicapped and programs for the handicapped may affect the program's operation. If the principal does not hold a positive attitude toward the work-study program, he is not likely to suppport the program and may be unwilling to allow students to work in off-campus jobs or to allow special teachers release time to supervise students on the job or locate off-campus job sites. Teachers having negative attitudes toward work-study programs may not understand why work-study students should be considered only part-time academic students.

The key person in all public school programs is the principal. Among the many responsibilities of the principal are improving the educational program, selecting and developing personnel, working with the community, and managing the school (Griffiths, Clark, Wynn, & Pannaccone, 1962). Vargason, Smith, and Wyatt (1975) say that the entire program of instruction within a given school, including special education programs, is the responsibility of the building principal.

Consequently, the principal must be supportive of the special education program in order for it to adequately facilitate the education of handicapped children. This support needs to be evident in the actions of the principal. Teachers in his building need to know that the principal fully supports the program.

Another way in which the principal plays a central role in schools is by providing a role model to all school personnel (Licata, 1975). This means that the attitudes and actions of the principal toward programs for the handicapped may be emulated by the teachers. If the principal has a negative attitude toward exceptional children, this could seriously affect the functioning of educational programs for these children if the teachers emulated this negative attitude. This has more impact currently than in the past due to handicapped children being integrated into regular classrooms. With regular classroom teachers being involved with the educational programming for handicapped children, the attitudes the principals hold toward these children, which is often reflected in the attitudes of the regular teachers, becomes extremely important. It is therefore at this administrative level that acceptance of this group of children must begin (Melcher, 1972).

Since the principal is in a position to influence the attitudes of the teachers in his building, and to give support necessary for the program to be successful, his attitudes toward exceptional children are most important. If the attitudes of principals and teachers have impact on educational programs for the handicapped, then the relationship between

these attitudes and other variables needs to be studied. Once a relationship between program variables and attitudes of principals can be established greater efforts can be made to inform and educate principals in the needs of exceptional children and the importance of programming.

Understanding relationships between attitudinal variables and other variables provides useful information in attempting to increase awareness and acceptance of handicapped children and programs for handicapped children. Studies have found that the knowledge about exceptional children one possesses (Proctor, 1967; Haring, Stern, & Cruickshank, 1958; Lovitt, 1975; Brooks & Bransford, 1971); sex (Conine, 969); age (Gottlieb and Corman, 1975); and contact (Higgs, 1975) are related to attitudes. These variables will be studied to determine their interrelatedness and their relationship to work-study programs.

Problem of the Study

The problem of this study was to determine whether the attitudes held by principals toward the handicapped and the work-study program affected the support given by the principals to the high school work-study program; also, to determine whether independent variables such as the principal's age, experience, educational background, and contact with handicapped persons affected his attitudes toward these persons and the work-study program.

Purpose of the Study

The purpose of the study was to determine if the attitudes high school principals held toward the handicapped and work-study programs had any relationship to the quality of work-study programs. The quality

of work-study programs was determined with ratings by school personnel for factors of program effectiveness and staff role performance of various school personnel. This was done by determining the interrelationships among high school principals' attitudes toward work-study programs; special education directors' ratings of principal support and knowledge of work-study programs; performance ratings of principals by vocational adjustment coordinators, directors of special education, and rehabilitation counselors; staff role ratings of other school personnel; and ratings of program effectiveness.

The study also investigated the relationship between principals' ages, coursework in special education, contact with handicapped children, experience as a principal, and experience with work-study programs and attitudes toward the handicapped and work-study programs. The relationship between these independent and dependent variables should indicate if certain background variables are related to attitudes toward the handicapped and work-study programs.

Once the relationships between these independent variables have been established, actions can be taken that will facilitate the success of work-study programs. For example, a positive relationship between attitudes held by principals toward the work-study program and program effectiveness would provide a basis for investigating and attempting to change the attitudes of principals toward work-study programs. Background variables found related to positive attitudes toward the handicapped and the work-study program would assist inservice education planners in providing needed and germane inservice programs to persons involved in the education of the handicapped.

Hypotheses to be Tested

In order to achieve the purposes of this study, the following null hypotheses were tested:

1. There will be no significant interrelationships among the background variables of age, contact with retarded persons, coursework in special education, years of experience as a principal, and years of experience with work-study programs.

2. There will be no significant differences between attitudes toward the mentally retarded, the learning disabled, and normal persons.

3. There will be no significant interrelationships among attitudes toward the mentally retarded, the learning disabled, normal persons, the work-study program, ratings of principal support and knowledge of work-study programs by directors of special education, and principals' role performance rated by the vocational adjustment coordinator, the director of special education, and the rehabilitation counselor.

4. There will be no significant relationship between principal attitudinal and principal rating variables and selected principal background variables.

5. There will be no significant relationship between principal attitudinal and rating variables and ratings of program effectiveness by vocational adjustment coordinators and staff role ratings of other school personnel.

METHODOLOGY

Design of the Study

The study was conducted to determine the relationships among the attitudes held by high school principals toward the work-study program and the handicapped, selected program variables and background variables of interest. Its basic design entailed: (1) selecting a sample of 100 high schools in Texas with work-study programs; (2) development of questionnaires; (3) collecting data from the principals of these schools and the principals of 98 schools used in a study conducted by the Research and Training Center in Mental Retardation at Texas Tech University on background information, attitudes toward the work-study program, and attitudes toward the handicapped; (4) performing standard statistical analysis on the collected data and data from the Research and Training Center study to test the stated hypotheses.

Sample

The study surveyed 198 high school principals in schools with work-study programs in the state of Texas. The subjects were obtained from two groups. Group I contained 98 principals representing schools used as the sample in a study conducted by the Research and Training Center in Mental Retardation at Texas Tech University. These 98 schools resulted from a modified random sampling of 350 graduates out of a total of 2770 VAC graduates. The programs of schools were stratified using the criteria of single district versus multiple district programs; numbers of program graduates, and percent graduates classified as mentally retarded. A fixed percent of the desired 350 graduates was selected for each classification

of program criteria according to the distribution of the classification in the programs of the total 2770 graduates. The sample of 350 graduates represented 98 work-study units.

Group II consisted of 100 principals from high schools in Texas with work-study programs, less the schools represented in Group I. Group I and Group II totaled 198 schools. The principals from these schools represented the total sample used in the study.

Survey forms were mailed to all 198 members of the sample in both Groups I and II. Along with the survey form was a letter explaining the study. After three weeks, 105 questionnaires, or 53 percent, had been returned. At this time a follow-up letter was mailed with another survey form. An additional 17 questionnaires were received following the second mailing, increasing the rate of return to 62 percent. A third mailing to those who had not responded was made. This mailing contained only a letter asking for the cooperation of the principals. A survey form was not included. Thirteen responded to the third mailing, bringing the total respondents to 135 or 68 percent. Six responses were not completed, so only 129 cases were used in analysis. Of the 129 usable cases, 98 responded to the semantic-differential scale.

Of the 129 responses, 75 were in Group I and 54 were in Group II. The Research and Training Center in Mental Retardation had data on 71 of the 75 respondents in Group I. Part of the data analysis used only the 71 respondents where matching data was available from the Research and Training Center study. The following table represents the return rate.

TABLE 1

RE URN RATE FROM GROUPS I AND II

	Total	Return	% Return
Group I	98	75	77%
Group II	100	54	54%

MATCHING RETURN RATE

Total	Return	R & T Return	Matching Return
98	75	--	71

Questionnaire Development

The data gathered in this study were obtained using a series of questionnaires. The questionnaire packet sent to principals had three components--background information on the respondent, attitudes toward the work-study program, and attitudes toward the mentally retarded, the learning disabled, and the normal person. Data from the Research and Training Center in Mental Retardation also were collected using survey instruments. These data gave information concerning factors of program effectiveness; ratings by the vocational adjustment coordinator, the director of special education, and the rehabilitation counselor on the principal's performance relating to the work-study program, as rated by

the director of special education; and ratings by the vocational adjustment coordinator on staff role performance of other school personnel.

Background information obtained included the principal's age, amount of coursework in special education, years of experience with work-study programs, years of experience as a principal, and years of contact with retarded persons in particular capacities. These variables were of interest because of their relationships, found in other studies, with attitudes toward the handicapped.

The component dealing with attitudes toward the work-study program was developed for the study after reviewing the literature and finding important and controversial components of work-study programs. After initial design, copies of the instrument were sent to five experts in the field of mental retardation and work-study programs, and the Texas Education Agency and the Texas Rehabilitation Commission. Feedback from these sources was used to finalize this component of the instrument In final form, this component consisted of 15 Likert-type items on various aspects of work-study programs. The respondent indicated whether he strongly agreed, agreed, disagreed, or strongly disagreed with the statement. The scale was balanced with positive and negative statements (Ary, Jacobs, & Razavich, 1972).

The third component of the questionnaire was a semantic-differential scale used to determined attitudes toward the mentally retarded, the learning disabled, and the normal person. This scale was used by Gottwald (1970), in a study investigating attitudes toward the mentally retarded (permission to use the scale was granted by Gottwald). The scale used sixteen pairs of bipolar adjectives. Validity ratings show correlation coefficients of approximately .80 between the semantic-differential technique and the Thurstone, Likert, and Guttman scales (Ary, Jacobs, & Razavich, 1972). The

semantic-differential technique was also used to facilitate a higher response rate as a result of its ease of completion.

Data from questionnaires obtained from the study conducted by the Research and Training Center in Mental Retardation were also used in the analysis. The performance of the principal was rated below, at, or above expectations by the vocational adjustment coordinator, the person in the schools most responsible for the work-study program, the director of special education, and the vocational rehabilitation counselor who worked with the school. Values of 1-3 were assigned to these ratings, with 3 being the highest. The knowledge of and support of the work-study program by the principal was rated by the district's director of special education. Respondents indicated whether the principal's knowledge and support were high, medium, or low. Rankings of 1-3 were assigned to these ratings, with 3 being the most positive.

The final variables indicated program effectiveness. One variable used was an overall rating of program effectiveness by the vocational adjustment coordinator, collected by the Research and Training Center study. The total mean score of these ratings was used to indicate the relative success of the program. The other variable that was used to indicate program effectiveness was the vocational adjustment coordinators' ratings of staff role performance of other school personnel.

Variables

Table 2 gives the specific variables within each variable group. Background variables for the study were as follows:

1. sex.
2. age.
3. college coursework in special education.
4. number of years as a teacher in a high school with a work-study program.
5. number of years as a principal in a high school with a work-study

program.

6. number of years as a principal.
7. number of years personally known or been involved with a retarded person in various relationships.

These background variables were used as independent variables in determining their relationship to each other and to the attitudes held by principals toward the handicapped and the work-study program.

Attitude variables for the study were as follows.

1. the rating of the principal's support and knowledge of the work-study program by the director of special education.
2. the staff role rating of the principal by the director of special education, vocational adjustment coordinator, and rehabilitation counselor.
3. attitudes held by principals toward the mentally retarded and the learning disabled.
4. attitudes held by principals toward the work-study program.

These attitude variables were used as dependent variables in determining their relationship to the background variables. Also, they were considered independent variables in examining their relationship to program variables.

The program variables used in the study were the following:

1. the mean score for school personnel staff roles rated by the vocational adjustment coordinator.
2. factors in program effectiveness.

These program variables were used as dependent variables in determining their relationship to attitude variables.

Treatment of the Data

After the survey data were collected, various correlational analyses were performed. Intercorrelations among attitudinal variables and

TABLE 2

SPECIFIC VARIABLES WITHIN VARIABLE GROUPS

Variable Group	
Background	Age, Sex, Courses in Special Education, Years as a Teacher in a Work-Study Program, Years as a Principal in a School with a Work-Study program, Years as a Principal, Contact Variables
Attitudinal	Attitudes Toward the Mentally Retarded, the Learning Disabled, Normal Persons, and the Work-Study Program
Rating	Principals' Knowledge of and Support of Work-Study Programs. Ratings of Principals' Role Performance
Program Effectiveness	Factors in Program Effectiveness and Staff Role Ratings

principal ratings by other staff were done to identify variation attributable to measurement methods and to what extent principal attitudes toward the handicapped were related to staff perceptions of his performance in relation to work-study programs. A t test was performed to determine if attitudes toward the three semantic-differential concepts (mentally retarded, learning disabled, normal person) were significantly different. Regression analysis was computed for the following independent (IV) and dependent (DV) variable sets:

1. IV on principal background information regressed on DV's consisting of attitude measures and staff rating of principals.
2. attitudes measures and staff ratings of principals as independent variables regressed on program quality variables as dependent variables.

Regression equations were derived on each dependent variable with the major categories of variables mentioned above as the independent variables or predictors.

Limitations of the Study

This study was limited to 198 principals from high schools with work-study programs in the state of Texas. Ninety-eight of the sample were from the same schools in the sample used in a study conducted by the Research and Training Center in Mental Retardation at Texas Tech University. The remaining 100 were chosen randomly from the remaining high schools within the state of Texas that have high school work-study programs. As a result of the sample being taken from one state, results may not be generalizable to similar programs in other parts of the country.

An additional limitation was the use of the questionnaire as the data-gathering device. As Jones, Gottfried, and Owens (1966) noted, responses to questionnaire items may not always reflect the behavior of the respondents in actual interpersonal encounters. Also, the fact that 23 percent did not respond biases the sample.

Limiting the study, also, is the lack of unequivocal evidence supporting a strong relationship between attitudes and behavior. In a study conducted by Inoue and Tanaka (1973), positive relationships were found to exist between attitudes and behaviors related to blood donation, smoking, cheating, premarital sex, and train riding without a ticket. The strength of the relationship, however, varied with the type of behavior. For example, the correlation on smoking was high (.79), but low (.31) on blood donation.

Studies conducted by McNeil (1972) and Corey (1937) failed to find any relationship between attitudes and behavior. This lack of relationship may be due to intervening variables such as other attitudes, competing motives, and alternative behaviors available (Wicker, 1969).

The types of attitudes measured may also affect the relationship found between attitudes and behavior. Rokeach and Kliejunas (1972) studied the relationships of attitudes toward situations and behavior versus attitudes toward objects and behavior. Data resulting from surveying college students on their attitudes toward class attendance indicated that attitudes toward the situation were a better predictor of behavior than attitudes toward the object.

Studies by Crespi (1971) and Perry (1976) support the idea that

attitudes measured toward specific referents predict behavior better than attitudes toward general referents. Crespi concluded this after reviewing the high relationships found between attitude measurements toward specific items and behavior. Perry's study dealt with the attitudes of students toward cheating and their subsequent actions as members of juries in mock trials dealing with accused cheaters. Results of this study indicated that the attitudes revealed on the specific scale correlated significantly with the behavior of the subjects at the trials while the attitudes revealed on the general scale were not significantly related to actions at the trials. A limitation with correlational studies is that they do not show a cause and effect relationship, only that a relationship exists.

PRESENTATION AND ANALYSIS OF THE DATA

The purpose of this section is to present and analyze the data collected during the study. The hypotheses previously presented were tested using the collected data and subjecting the data to standard statistical analyses. The data are presented in relation to the stated hypotheses.

Relationships Among Background Variables

The background variables measured were age, sex, coursework in special education, years as a teacher in a school with a work-study program. years principal in a school with a work-study program, years as a principal, and various contact variables. Table 3 gives the descriptive data on all these variables.

Age

The ages of the respondents ranged from a low of 27 to a high of

TABLE 3

MEANS, STANDARD DEVIATIONS, AND RANGES OF BACKGROUND VARIABLES

Variable	Mean	Standard Deviation	Range
Age	45.30	7.75	27-67
Number of special education courses	0.37	0.97	0-4
Years as a teacher in a school with a work-study program	2.60	3.89	0-18
Years as a principal in a school with a work-study program	4.69	3.19	0-15
Years as a principal	9.99	7.67	0-42
Years as a parent of a mentally retarded child	2.13	6.31	0-28
Years as a teacher of a mentally retarded child	6.45	8.68	0-30
Years as a friend of a parent of a mentally retarded child	7.27	10.30	0-40
Years as a fellow-employee of a parent of a mentally retarded child	2.97	5.84	0-27
Years acquainted with a mentally retarded person	8.32	12.41	0-40

67. The mean age of the group was 45.28 years.

Sex

All but one respondent was a male. Four respondents failed to identify their sex.

Coursework in Special Education

This question asked how many college courses in special education had been completed by the respondent. Of the 129 principals who responded to this question, 108 had not completed a single special education course. Those who had taken some coursework in special education had taken an average of 2.29 courses.

Years Principal in a School with a Work-Study Program

The principals in the sample had worked in that role an average of 4.69 years. Six of the respondents were in their first year as a principal in a school with a work-study program.

Years Principal

The average number of years the sampled subjects had been principal was 9.99. This ranged from two respondents who were in their first year as principal, to a high of 42 years.

Years Teacher in a School with a Work-Study Program

The sample responding to this question had been a teacher in a school with a work-study program an average of 2.60 years. The range on this item was 18 years.

Contact Variables

Sixteen of the principals were parents of a mentally retarded child.

Fifty-nine of the principals had performed as a teacher of mentally retarded children. The average number of years as a teacher of the mentally retarded was 6.45 for the total sample. Out of the 129 respondents, 57 had been a friend of a mentally retarded child's parent, 63 had been an acquaintance of a mentally retarded person, and 38 had worked with the parent of a mentally retarded child. Table 4 gives the frequency of contacts.

Interrelationships Among Background Variables

A Pearson r was calculated for all combinations of background variables. Table 5 shows the results of correlations among background variables. The background variables most related were the five indicating contact with handicapped persons--years as a parent of a mentally retarded child, years as a teacher of a mentally retarded child, years as a friend of a parent of a mentally retarded child, years as a fellow-employee of a parent of a mentally retarded child, and years as an acquaintance of a mentally retarded person. Of the ten possible correlations within these variables, 7 were significant. Another group of variables with high relationships was the ones indicating the professional experience of the respondent--years as a principal, years as a teacher in a school with a work-study program, and years as a principal in a school with a work-study program. Two of the three possible correlations were significant.

Age as a variable, correlated significantly with the number of years as a principal and number of years as a principal in a school with a work-study program. This tends to indicate only that the more years a person is a principal the older that person will be. Of significant correlations, number of courses completed in special education was negatively

TABLE 4

DICHOTOMIZATION OF CONTACT VARIABLES

Variable	Yes	No
Contact as a parent of a mentally retarded child	16	113
Contact as a teacher of a mentally retarded child	59	70
Contact as a friend of a parent of a mentally retarded child	57	72
Contact as a fellow-employee of a parent of a mentally retarded child	38	91
Contact as an acquaintance of a mentally retarded person	63	66

TABLE 5

CORRELATIONS AMONG BACKGROUND VARIABLES

	1	2	3	4	5	6	7	8	9
1) AGE	-								
2) YRTWS	-.03	-							
3) YTPWS	.33***	.35***	-						
4) YRPRIN	.60***	-.01	.41***	-					
5) YRPAR	.17	-.01	.13	.06	-				
6) YRTCH	.10	.06	.05	-.07	.20*	-			
7) YRFR	.02	-.02	.04	-.02	.28***	.27**	-		
8) YREMP	.02	.06	-.02	-.04	.31***	.11	-.42***	-	
9) YRACQ	.17	.14	.06	.19	.00	.02	.33***	-.17*	

* $p < .05$
** $p < .01$
*** $p < .001$

Variable codes are found in appendix A

related to years as a principal in a school with a work-study program. This finding could mean that principals with less experience are taking more special education courses than those with more experience. This might be the result of the recent expansion of special education in the schools. The variable of years as a teacher in a school with a work-study program correlated with years as principal in a school with a work-study program. The number of years a person has been a principal correlated with years as a principal in a school with a work-study program.

Hypothesis number one was rejected. The majority of background variables were not significantly interrelated.

Relationships Among Principal Attitudinal Variables and Ratings by the Work-Study Program Staff

Four attitudinal variables were measured. These were attitudes toward the mentally retarded, the learning disabled, normal persons, and the work-study program. Ratings of principals' support and knowledge of work-study programs by directors of special education, and principals' role performance as rated by the vocational adjustment coordinator, the director of special education, and the rehabilitation counselor were also measured.

Attitudes Toward the Mentally Retarded, the Learning Disabled, and Normal Persons

The attitudes toward the mentally retarded, the learning disabled, and the normal were measured using a semantic-differential with 16 sets of bipolar adjectives. Tables 6 and 7 represent the descriptive data

TABLE 6

MEANS AND STANDARD DEVIATIONS FOR SEMANTIC-DIFFERENTIAL RATINGS FOR MENTALLY RETARDED, LEARNING DISABLED, AND NORMAL PERSONS

Category	n	Mean Score	Standard Deviation
Mentally Retarded	98	2.87	0.41
Learning Disabled	98	2.77	0.42
Normal	98	2.44	0.44

TABLE 7

ATTITUDES TOWARD THE MENTALLY RETARDED, THE LEARNING DISABLED AND NORMAL PERSONS ON EACH PAIR OF BIPOLAR ADJECTIVES

Adjective Pairs	Mean for Mentally Retarded	Mean for Learning Disabled	Mean for Normal
strong-weak	3.28	3.01	2.70
beautiful-ugly	2.91	2.83	2.82
healthy-sick	2.85	2.66	2.34
superior-inferior	3.36	3.08	2.72
sane-insane	2.85	2.55	2.07
kind cruel	2.61	2.63	2.30
useful-useless	2.70	2.59	2.17
honest-dishonest	2.51	2.56	2.24
safe-dangerous	2.60	2.55	2.13
clean-dirty	2.71	2.63	2.24
educated-ignorant	3.26	2.91	2.48
relaxed-tense	2.96	2.96	2.54

TABLE 7 CONTINUED

Adjective Pairs	Mean for Mentally Retarded	Mean for Learning Disabled	Mean for Normal
aggressive-passive	3.10	2.98	2.80
neat-untidy	2.97	2.84	2.43
happy-unhappy	2.84	2.84	2.38
moral-immoral	2.65	2.68	2.33

collected on this scale. In all but three pairs of adjectives, the mentally retarded category received the least positive response, with the normal category receiving the most positive. In these cases, the normal category still received the most positive response, but the learning disabled category instead of the mentally retarded group received the least positive rating.

The relationships among the semantic-differential ratings for the two exceptionalities and normal person were analyzed for each of the 16 sets of adjectives. The results of this analysis can be found in Table 8. Most of the intercorrelations were very significant ($p < 0.001$), with only a few being nonsignificant. Of the seven non-significant correlations, five were between the mentally retarded and normal categories, and two were between the learning disabled and normal categories. Those correlations with a probability level of less than .05 were the following: strong-weak between the normal and mentally retarded; superior-inferior among all three groups; sane-insane between the normal and the mentally retarded; relaxed-unrelaxed between the normal and the mentally retarded; aggressive-passive among all three groups; and tidy-untidy between the normal and mentally retarded.

A *t* test was made on the means of total semantic-differential ratings of the three categories of persons--mentally retarded, learning disabled, and normal. Results indicated significant differences for all pairwise comparisons of the three groups. The most positive attitudes were recorded toward normal persons (mean = 2.44), with attitudes toward the learning disabled being the next most positive (mean = 2.77). Attitudes

TABLE 8

CORRELATIONS AMONG SEMANTIC-DIFFERENTIAL RATINGS FOR THE MENTALLY RETARDED THE LEARNING DISABLED, AND NORMAL PERSONS

Adjective Pairs	Normal-M.R.	Normal-L.D.	M.R.-L.D.
strong-weak	.10	.35***	.55***
beautiful-ugly	.37***	.51***	.66***
healthy-sick	.26**	.51***	.37***
superior-inferior	.55***	.05	.53***
sane-insane	.16	.49***	.60***
kind-cruel	.34***	.33***	.66***
useful-useless	.36***	.51***	.68***
honest-dishonest	.56***	.43***	.35***
safe-dangerous	.50***	.46***	.64***
clean-dirty	.59***	.61***	.73***
educated-ignorant	.21*	.21*	.50***
relaxed-tense	.18	.24*	.50***

TABLE 8 CONTINUED

Adjective Pairs	Normal-M.R.	Normal-L.D.	M.R.-L.D.
passive-aggressive	-.11	.09	.44***
neat-untidy	.11	.48***	.57***
happy-unhappy	.27**	.23*	.43***
moral-immoral	.53***	.44***	.66***

*$p < .05$
**$p < .01$
***$p < .001$

toward the mentally retarded were the least positive (mean = 2.87). Table 9 reveals the results of the t test, and Figure 1 graphically depicts the attitudes toward the three groups on each of the 16 pairs of adjectives. The t test results disprove hypothesis number 2. Significant differences do exist among attitudes of principals toward the mentally retarded, the learning disabled, and normal persons.

Attitudes Toward the Work-Study Program

Attitudes toward the work-study program were determined using a 15 item Likert-type scale. The scale was balanced with positive and negative statements. Table 10 describes the data collected with this scale. The two statements scored most positive related to allowing students to work off-campus during school hours (mean = 1.48) and to the fact that the students in work-study programs need extra assistance (mean = 1.56). The statements rated lowest said that work-study students should not receive a regular diploma upon completion of high school (mean = 2.91) and that secondary programs should be available for all secondary-age handicapped students regardless of the severity of the handicap (mean = 2.40).

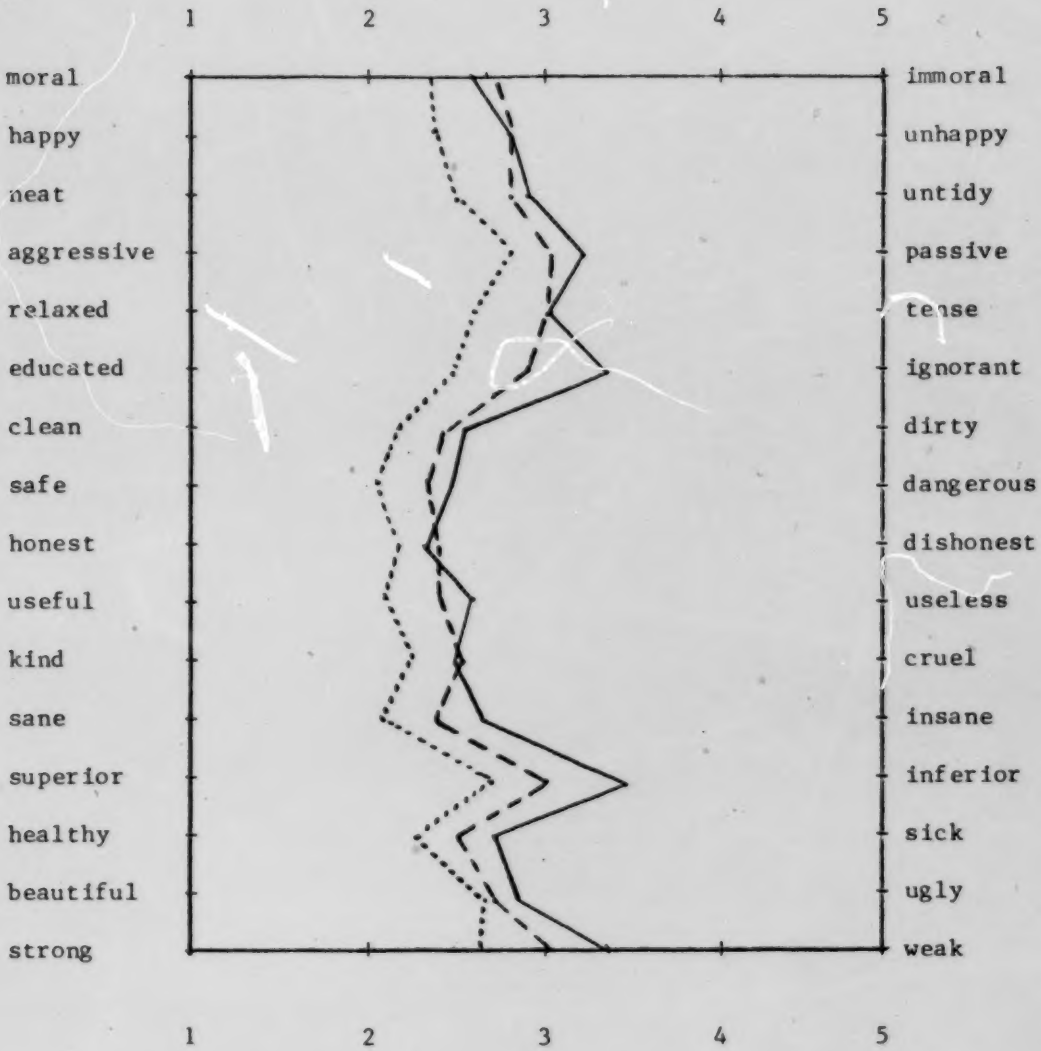
The interrelationships among the 15 program variables were also analyzed. Table 11 represents this analysis. Significant correlations were found consistently in all but three variables.

Seven of the program variables correlated significantly with at least 10 of the other program variables. Of these seven, five dealt with general statements concerning work-study programs, such as "The work-study program is a workable administrative arrangement for educating many secondary handicapped students" and "The work-study program benefits

TABLE 9

DIFFERENCES AMONG MEAN ATTITUDES TOWARD THE MENTALLY RETARDED THE LEARNING DISABLED, AND NORMAL PERSONS

Categories of Persons	t value	df	2-tail probability
Normal Mentally Retarded	-9.74	97	$p < 0.001$
Normal Learning Disabled	-8.02	97	$p < 0.001$
Mentally Retarded Learning Disabled	3.79	97	$p < 0.001$



Mentally Retarded _____

Learning Disabled _ _ _ _ _

Normal ----------

Figure 1. Attitudes toward the mentally retarded, the learning disabled, and normal persons on each of the bi-polar adjectives.

TABLE 10

MEANS AND STANDARD DEVIATIONS FOR WORK-STUDY PROGRAM VARIABLES

Program Variable	n	Mean Score	Standard Deviation
PV 7	129	1.62	0.60
PV 8	129	2.91	1.05
PV 9	129	1.48	0.60
PV 10	129	1.84	0.69
PV 11	128	1.68	0.73
PV 12	129	1.75	0.60
PV 13	129	1.56	0.53
PV 14	128	2.26	0.75
PV 15	129	1.99	0.80
PV 16	129	1.67	0.65
PV 17	128	2.40	0.92
PV 18	127	2.12	0.77
PV 19	126	1.80	0.68

TABLE 10 CONTINUED

Program Variable	n	Mean Score	Standard Deviation
PV 20	128	2.24	0.76
PV 21	129	2.02	0.84
PV 22	127	1.95	0.89
Mean Program Attitudinal Variable Score	129	1.96	0.34

Variable codes are found in Appendix A

TABLE 11

CORRELATIONS AMONG ATTITUDES TOWARD THE WORK-STUDY PROGRAM

	1	2	3	4	5	6	7	8	9
1) PV 7	-								
2) PV 8	.23**	-							
3) PV 9	.64***	.08	-						
4) PV 10	.28***	.38***	.13*	-					
5) PV 11	.22**	.21*	.14	.31***	-				
6) PV 12	.56***	.32***	.55***	.38***	.23**	-			
7) PV 13	.65***	.19*	.55***	.21*	.32***	.56***	-		
8) PV 14	.12	.15	.23**	.07	-.08	.22**	.15	-	
9) PV 15	.22**	.13	.14	.28***	.23**	.14	.25**	.09	-
10) PV 16	.41***	.30***	.42***	.20*	.34***	.43***	.43***	.10	.19*
11) PV 17	.19*	.22**	.12	.20*	.14	.17*	.17*	.14	.16
12) PV 18	.23**	.22**	.13	.32***	.19*	.13	.23**	.10	.25**
13) PV 19	.24**	.13	.30***	.17*	.25**	.30***	.37***	.12	.25**
14) PV 20	.10	.13	.00	.28***	.09	.04	-.06	-.06	.16
15) PV 21	.16	.21*	.09	.40***	.22**	.20*	.20*	.08	.15
16) PV 22	-.13	-.12	-.07	-.14	-.04	.01	.06	.10	-.15

TABLE 11 CONTINUED

	10	11	12	13	14	15	16
10) PV 16	-						
11) PV 17	.22**	-					
12) PV 18	.17*	.35***	-				
13) PV 19	.19*	.13	.38***	-			
14) PV 20	-.12	.03	.25**	-.03	-		
15) PV 21	.06	.05	.15	.29***	.11	-	
16) PV 22	-.16	-.05	.08	.10	-.03	-.06	-

*$p < .05$
**$p < .01$
***$p < .001$

Variable codes are found in appendix A

most students who participate in the program." Program variable 10, stating that work-study students are mainly trying to get through high school the easiest way possible, correlated significantly with all but two of the other program variables.

The least related variable was the statement requiring the vocational adjustment coordinator to spend at least one hour in the classroom each day. This variable did not significantly correlate with any of the other work-study attitudinal variables. Two other variables in this group had low intergroup correlations. The variable stating that students should receive pay for work performed on the school campus was significantly related only to the following two statements: (1) "Work-study students should be allowed to work off campus during school hours" and (2) "The work-study program benefits most students who participate in the program." The statement "In most cases, the Texas Rehabilitation counselor should not have a voice in individual work-study student programming" correlated significantly only with the following: (1) "If time permits, the vocational adjustment coordinator should attempt to influence dropouts to return to school" and (2) "Work-study students are mainly trying to get through high school the easiest way possible."

Principal Support and Knowledge of the Work-Study Program

The director of special education rated the principal on his support and knowledge of the work-study program. Table 12 reveals the descriptive data on these two variables. The mean score on principal support was 2.51 and the mean score on principal knowledge was 2.44. These scores are very similar, indicating that the special education directors

TABLE 12

DIRECTORS OF SPECIAL EDUCATION RATINGS OF PRINCIPALS' KNOWLEDGE AND SUPPORT OF WORK-STUDY PROGRAMS

Variable	n	Mean Score	Standard Deviation
Principal Support	71	2.51	0.74
Principal Knowledge	71	2.44	0.71

generally viewed the knowledge a principal possessed about work-study programs as being related to the support given by the principal for the program.

Principals' Role Performance

The vocational adjustment coordinator, the director of special education, and the rehabilitation counselor rated the role performance of the principal in relation to the work-study program. Table 13 gives the mean score of the three variables. All three ratings are toward the positive rating, with the vocational adjustment coordinator's rating being the most positive. The similarity of the ratings indicates that personnel in these three roles generally agree on the role performance of the principal as it relates to the work-study program.

Interrelationships Among Total Semantic-Differential Ratings, Total Program Attitudinal Ratings and Role Ratings

In order to determine the interrelationships among the four attitudinal variables and five role ratings, a Pearson correlation coefficient was computed for all combinations of variables. Table 14 gives the results of these computations. A significant correlation ($p < .001$) was found among all attitudinal ratings toward the three categories of individuals (mentally retarded, learning disabled, and normal). The only other significant relationships among attitudinal variables toward categories of persons and other attitudinal variables were attitudes toward the mentally retarded and attitudes toward the work-study program ($p < 0.02$) and attitudes toward normal persons and principals' support ($p < 0.01$). The significant relationship between attitudes toward the mentally retarded and attitudes toward the work-study program reveals

TABLE 13

PRINCIPALS' RATED ROLE PERFORMANCE

Performance Rated By	n	Mean Rating	Standard Deviation
Vocational Adjustment Coordinator	61	3.15	0.77
Director of Special Education	52	2.96	0.74
Rehabilitation Counselor	66	2.82	0.70

TABLE 14

CORRELATIONS AMONG ATTITUDINAL VARIABLES AND PRINCIPAL ROLE RATINGS

	1	2	3	4	5	6	7	8	9
1) MNM	-								
2) MNL	.77***	-							
3) MNN	.55***	.56***	-						
4) PSUP	-.05	.18	.37**	-					
5) PKNOW	-.15	.11	.16	.85***	-				
6) MNPV	.30*	.17	.19	-.15	-.19	-			
7) VS2	-.10	-.18	-.03	.64***	.58***	-.19	-		
8) DIR	-.22	-.10	.20	.77***	.61***	-.13	.70***	-	
9) CSR	-.05	.05	.23	.55***	.50***	-.12	.62***	.60***	-

* $p < .05$
** $p < .01$
*** $p < .001$

Variable codes are found in appendix A

the fact that the majority of students in work-study programs fit into the mental retardation category.

High relationships were found to exist among the variables rated by school persons. Ratings of principal role performance, knowledge and support of the work-study program by the directors' of special education, and the rehabilitation counselors' and vocational adjustment coordinators' ratings of principal role performance were all significantly interrelated ($p < 0.001$). This indicates that persons who work together on educational programs under a particular principal all generally rate the principal the same in his role related to that educational program.

Relationships Among Background Variables, Principal Attitudinal and Rating Variables, and Ratings of Program Effectiveness

Background Variables and Principal Attitudinal and Rating Variables

A Pearson correlation coefficient was computed for all possible relationships between background variables and principal attitudinal and rating variables. Table 15 gives the results of these correlations. Only three sets of variables were significantly correlated. These were years as a fellow-employee of a parent of a mentally retarded child with mean attitude toward mentally retarded persons ($p < 0.05$) and with mean attitude toward the learning disabled ($p < 0.05$); and years a teacher in a school with a work-study program with the support principals gave to work-study programs as rated by directors of special education ($p < 0.05$). A relationship nearing the 0.05 significance level was found between years acquainted with a mentally retarded person and mean attitude toward the mentally retarded ($p < 0.08$). The other attitudinal and rating

TABLE 15

CORRELATIONS AMONG ATTITUDINAL VARIABLES, RATING VARIABLES, AND BACKGROUND VARIABLES

	MNM	MNL	MNPV	PSUP	PKNOW	VS2	CSR	DIR
1) AGE	.06	.18	-.10	-.04	.04	-.10	-.12	-.22
2) SEX	-.03	.00	.00	.09	-.09	-.03	.03	.01
3) COURSE	-.06	-.12	.02	.04	-.05	.08	.01	.02
4) YRTWS	.04	.07	-.02	-.29*	-.19	-.21	.13	-.23
5) YRPRWS	.08	.08	-.07	-.06	.02	.03	.09	-.07
6) YRPRIN	.14	.11	.02	.02	.07	.04	-.03	-.04
7) YRPAR	.02	-.05	.07	-.04	.00	-.04	.05	.02
8) YRTCH	.12	-.04	-.01	.13	.18	.03	-.04	.10
9) YRFR	-.05	-.07	.04	.10	.17	.05	.13	.10
10) YREMP	-.26*	-.26*	-.01	.08	.03	.08	.14	.08
11) YRACQ	-.23	-.02	-.13	.15	.22	.14	.17	.05

*$p < .05$

Variable codes are found in appendix A

variables were not significantly correlated with background variables. Thus, hypothesis 4 is rejected because there were some significant relationships between background variables and attitudinal and rating variables. The lack of a significant correlation among certain background variables, such as age, sex, and coursework in special education with the attitudinal variables only adds support to the equivocal results of previously cited research studies investigating these relationships.

Principal Attitudinal and Rating Variables and Ratings of Program Effectiveness

The relative success of the work-study programs studies was determined by ratings of program effectiveness by the vocational adjustment coordinators and the mean score of seven staff role performances as rated by the vocational adjustment coordinator. Fifteen items on a factors-in-program-effectiveness scale were rated, and the mean score was used as a measure of program effectiveness. Using this measure to indicate program effectiveness assumes that factors such as relationships among school staff in various departments of interest, suitability of work loads, general community support, and the like are important for effective programming for handicapped students.

The role performance of seven school staff who are important to effective work-study programs, the school counselor, director of special education, special education teacher, regular teacher, director of vocational education, vocational education counselor, and vocational education teacher, was rated by the vocational adjustment coordinator in terms of being below, at, or above expectations. Scores of 1-3

were assigned to these ratings, with 3 being equivalent to above expectations. The mean of these scores served as another measure of program effectiveness. The correlation between these two measures of program effectiveness was at the 0.001 level of significance, indicating that the vocational adjustment coordinators relate the role performances of persons associated with the work-study program with their ratings of factors in program effectiveness. The nine attitudinal and rating variables and their relationships to the mean program effectiveness rating and mean role performance rating were analyzed. Table 16 is provided to illustrate these relationships.

None of the three measures of attitudes toward categories of persons--mentally retarded, learning disabled, and normal was significantly related to ratings in program effectiveness or staff role ratings. The variable most related to factors in program effectiveness was attitudes toward normal persons, with attitudes toward the mentally retarded being the least related. Measured attitudes toward the work-study program were also not significantly related to factors in program effectiveness or staff role ratings. This means that attitudes principals hold toward the mentally retarded, the learning disabled, the normal, and the work-study program are not significantly related to the measures of program effectiveness used in this study.

All five of the principal rating variables were found to be significantly related to ratings of factors in program effectiveness and staff role ratings. These included ratings of principals' support and knowledge of the work-study program and principals' role performance by directors of special education, and principals' role performance ratings by

TABLE 16

RELATIONSHIPS BETWEEN PRINCIPAL ATTITUDINAL AND RATING VARIABLES AND PROGRAM EFFECTIVENESS CRITERION VARIABLES

	MNN	MNM	MNL	MNPV	PSUP	PKNOW	VS2	CSR	DIR
MNVF	.21	.08	.14	-.01	.63***	.67***	.64***	.64***	.59***
MNVS	-.05	-.08	-.04	.00	.52***	.44**	.53***	.38**	.49***

**$p < .01$
***$p < .001$

vocational adjustment coordinators and rehabilitation counselors. All of these variables were significantly correlated ($p < 0.001$) with the mean ratings of program effectiveness, and were significantly correlated with staff role performances ($p < 0.001$ - $p < 0.003$). This tended to indicate that ratings by other school personnel of principals' performance had high relationships with effectiveness of the program as rated by the vocational adjustment coordinators.

The data reveal a breakdown in the relationships between the attitudes of principals, as derived by surveys, and program effectiveness variables. This breakdown does not occur between the variables of principal rated performance, knowledge, and support and program effectiveness variables. This indicates that the role of the principal in relation to work-study programs is better rated by school personnel who work with that program than by attitudinal measures completed by the principal. This reveals the importance of daily contact and proximity among individuals in determining the actions of persons toward particular school programs.

Predicting Attitudes and Program Effectiveness

In order to try to conclude the predicting levels of background variables on attitudinal variables, and attitudinal, rating, and background variables on program effectiveness, regression analyses were performed. In these analyses, the background variables were treated as independent variables and were regressed on the dependent variables--attitudinal and rating variables. Because of high correlations among some variables within the sets of background variables, principal attitudinal variables, and principal rating variables, they were either deleted or collapsed for regression analyses.

The mean of the ratings of principals' role performance, as rated by the directors of special education, rehabilitation counselors, and vocational adjustment coordinators, was calculated to produce a single variable indicating the role performance of principals. The number of years respondents had been teachers in schools with work-study programs and principals in schools with work-study programs, were combined to give the number of years as a teacher or principal in a school with a work-study program. Instead of regressing each contact variable on attitudinal and rating variables, years as a friend of a parent of a mentally retarded child, years as a fellow employee of a parent of a mentally retarded child, and years as an acquaintance of a mentally retarded person were combined to give the total number of these contacts. The variable, years as a teacher, was dichotomized to indicate whether the respondent had been a teacher or not. Rather than using all items within the factors in program effectiveness variable, the mean of three variables--relationship between work-study program staff and other school staff, relationship between school and rehabilitation agency staff, and relationship between special education and vocational education staff was calculated. The staff role performance of the school counselors, vocational education teachers, and regular teachers were combined to create a variable representing the mean of staff role performance. Table 17 gives the results of the correlations among these collapsed variables. The basic regression equation is $Y^1 = a + b_1 X_1 + b_2 X_2$, where Y = predicted scores of the dependent variable, X = the scores of the independent variable, a = the constant, and b = the beta weights (Kerlinger, 1973). Stepwise multiple regression analyses were done so as to include only

those variables that would add predictive power to the equations.

Attitudes Toward the Mentally Retarded

Table 18 gives the regression analysis of collapsed background variables on attitudes toward the mentally retarded. The background variables indicating the number of contacts principals had with the mentally retarded had the greatest predicting value with having been a teacher having the next most predictive value. The regression equation for attitudes toward the mentally retarded was found to be $Y = 2.89 + (-0.223\ X_1) + (.077\ X_2) + (0.053\ X_3)$.

Attitudes Toward the Learning Disabled

The data from regressing background variables on attitudes toward the learning disabled can be found in Table 19. As in predicting attitudes toward the mentally retarded, variables indicating number of contacts with the mentally retarded and whether principals had been teachers were the two most predictive variables. The regression equation for attitudes toward the learning disabled was thus $Y = 2.88 + (-0.282\ X_1) + (0.07\ X_2) + (0.051\ X_3)$.

Attitudes Toward the Work-Study Programs

The regression analysis of background variables on attitudes toward work-study programs revealed only one variable with predictive value--years experience with work-study programs. Table 20 gives the summary of the analysis. The derived regression equation was $Y = 1.97 + (-0.048\ X_1)$.

Role Performance of Principals

Background variables were regressed on the mean score for role performance of principals, as rated by vocational adjustment coordinators,

TABLE 17

CORRELATIONS AMONG COLLAPSED VARIABLES

	1	2	3	4	5	6	7	8	9
1) MNL	-								
2) MNM	.77	-							
3) MNPV	.17	.30	-						
4) PRRAT	-.01	-.22	-.21	-					
5) YRWS	.08	.06	-.05	-.05	-				
6) YRTCH	-.10	.05	.01	-.08	-.11	-			
7) NOCON	-.29	-.22	.02	.02	-.09	.10	-		
8) VST	-.14	-.15	-.01	.54	-.07	.04	.06	-	
9) SVF	-.07	-.13	.01	.57	-.15	.01	.08	.89	-

Variable codes are found in appendix A

TABLE 18

STEPWISE MULTIPLE REGRESSION ANALYSIS OF BACKGROUND VARIABLES REGRESSED ON ATTITUDES TOWARD THE MENTALLY RETARDED

Step	MNM	MNPV	PRRAT	YRWS	YRTCH	NOCON	R	R^2	P-tot.	P-ent.
1						-.22	.22	.048	ns	ns
2					.07	-.23	.23	.053	ns	ns
3				.05	.07	-.22	.24	.056	ns	ns

R is the multiple correlation coefficient; R^2 indicates the proportion of variance predicted; P-tot. is the significance of the total set of variables for each step; P-ent. is the significance of the last variable entered for each set; variables codes are found in appendix A.

TABLE 19

STEPWISE MULTIPLE REGRESSION ANALYSIS OF BACKGROUND VARIABLES REGRESSED ON ATTITUDES TOWARD THE LEARNING DISABLED

Step	MNM	MNPV	PRRAT	YRWS	YRTCH	NOCON	R	R^2	P-tot.	P-ent.
1						-.29	.29	.086	<.05	.05
2					-.08	-.29	.30	.092	ns	ns
3				.05	-.07	-.28	.31	.095	ns	ns

R is the multiple correlation coefficient; R^2 indicates the proportion of variance predicted; P-tot. is the significance of the total set of variables for each step; P-ent. is the significance of the last variable entered for each set; variable codes are found in appendix A.

TABLE 20

STEPWISE MULTIPLE REGRESSION ANALYSIS OF BACKGROUND VARIABLES REGRESSED ON ATTITUDES TOWARD THE WORK-STUDY PROGRAM

Step	MNM	MNPV	PRRAT	YRWS	YRTCH	NOCON	R	R^2	P-tot.	P-ent.
1				-.05			.05	.002	ns	ns

R is the multiple correlation coefficient; R^2 indicates the proportion of variance predicted; P-tot. is the significance of the total set of variables for each step; P-ent. is the significance of the last variable entered for each set; variable codes are found in appendix A.

directors of special education, and rehabilitation counselors. Table 21 presents the summary of this analysis. The variable with the greatest predictive power was found to be whether a principal had been a teacher of the retarded or not. Years experience in work-study programs was the next best predictor, with the number of contacts with retarded persons being next. The derived regression formula for predicting principal role performance rated by these three school personnel was $Y = 4.94 + (-0.087\ X_1) + (-0.062\ X_2) + (0.018\ X_3)$.

Factors in Program Effectiveness

In order to derive a formula to predict factors in program effectiveness, two stepwise multiple regression analyses were performed. In the first regression, collapsed attitudinal and rating variables were regressed on the collapsed variable representing factors in program effectiveness. Table 22 details the results of this analysis, in which the principals' rating variable was found to be the most productive variable. Attitudes toward the work-study program were the second most powerful predictor. The equation derived from this analysis was $Y = 1.07 + (0.59\ X_1) + (0.145\ X_2) + (-0.041\ X_3)$.

A second regression analysis was performed adding collapsed background variables to collapsed attitudinal and rating variables. The best predictors derived from this analysis were still the principals' rating variable and attitudes toward the work-study program. The results of this analysis are in Table 23. The predictive equation derived from this analysis was $Y = 1.02 + (0.588\ X_1) + (0.132\ X_2) + (-0.106\ X_3) + (0.05\ X_4) + (0.034\ X_5) + (-0.022\ X_6)$.

TABLE 21

STEPWISE MULTIPLE REGRESSION ANALYSIS OF BACKGROUND VARIABLES
REGRESSED ON PRINCIPAL ROLE RATINGS

Step	MNM	MNPV	PRRAT	YRWS	YRTCH	NOCON	R	R^2	P-tot.	P-ent.
1					-.08		.08	.006	ns	ns
2				-.06	-.08		.10	.01	ns	ns
3				-.06	-.08	.02	.10	.01	ns	ns

R is the multiple correlation coefficient; R^2 indicates the proportion of variance predicted; P-tot. is the significance of the total set of variables for each step; P-ent. is the significance of the last variable entered for each set; variable codes are found in appendix A.

TABLE 22

STEPWISE MULTIPLE REGRESSION ANALYSIS OF ATTITUDINAL AND RATING VARIABLES REGRESSED ON FACTORS IN PROGRAM EFFECTIVENESS

Step	MNM	MNPV	PRRAT	YRWS	YRTCH	NOCON	R	R^2	P-tot.	P-ent.
1			.57				.57	.323	<.01	<.01
2		.13	.60				.58	.340	<.01	ns
3	-.04	.14	.60				.58	.342	<.01	ns

R is the multiple correlation coefficient; R^2 indicates the proportion of variance predicted; P-tot. is the significance of the total set of variables for each step; P-ent. is the significance of the last variable entered for each set; variable codes are found in appendix A.

TABLE 23

STEPWISE MULTIPLE REGRESSION ANALYSIS OF ATTITUDINAL, RATING, AND BACKGROUND VARIABLES REGRESSED ON FACTORS IN PROGRAM EFFECTIVENESS

Step	MNM	MNPV	PRRAT	YRWS	YRTCH	NOCON	R	R^2	P-tot.	P-ent.
1			.57				.57	.323	<.01	<.01
2		.13	.60				.58	.340	<.01	ns
3		.13	.59	-.12			.59	.354	<.01	ns
4		.13	.59	-.11		.06	.60	.357	<.01	ns
5		.13	.59	-.11	.03	.05	.60	.358	<.01	ns
6	-.02	.13	.59	-.11	.03	.05	.60	.358	<.01	ns

R is the multiple correlation coefficient; R^2 indicates the proportion of variance predicted; P-tot. is the significance of the total set of variables for each step; P-ent. is the significance of the last variable entered for each set; variable codes are found in appendix A.

Staff Role Ratings

The staff role rating variable used in the regression analyses was the mean of ratings of the school counselor, regular teacher, and vocational education teacher. In one analysis, collapsed attitudinal and rating variables were regressed on the staff role variable. This analysis showed that principals' role ratings and attitudes toward the work-study program were the best variables for predicting staff role ratings. The derived regression formula was $Y = -0.980 + (0.556\ X_1) + (0.127\ X_2) + (-0.069\ X_3)$. Results of the analysis are in Table 24.

Table 25 presents the results of adding collapsed background variables to collapsed attitudinal and role rating variables as predictors of staff role ratings. Again, principals' role ratings and attitudes toward the work study program were the best predictors. The regression equation was $Y = 0.262 + (0.561\ X_1) + (0.124\ X_2) + (0.076\ X_3) + (-0.065\ X_4) + (0.023\ X_5) + (-0.019\ X_6)$.

TABLE 24

STEPWISE MULTIPLE REGRESSION ANALYSIS OF ATTITUDINAL AND RATING VARIABLES REGRESSED ON STAFF ROLE RATINGS

Step	MNM	MNPV	PRRAT	YRWS	YRTCH	NOCON	R	R^2	P-tot.	P-ent.
1			.54				.54	.296	< .01	< .01
2		.11	.57				.55	.307	< .01	ns
3	-.07	.13	.56				.56	.312	< .01	ns

R is the multiple correlation coefficient; R^2 indicates the proportion of variance predicted; P-tot. is the significance of the total set of variables for each step; P-ent. is the significance of the last variable entered for each set; variable codes are found in appendix A.

TABLE 25

STEPWISE MULTIPLE REGRESSION ANALYSIS OF ATTITUDINAL, RATING, AND BACKGROUND VARIABLES REGRESSED ON STAFF ROLE RATINGS

Step	MNM	MNPV	PRRAT	YRWS	YRTCH	NOCON	R	R^2	P-tot.	P-ent.
1			.54				.54	.296	$<.01$	$<.01$
2		.11	.58				.55	.307	$<.01$	ns
3		.11	.57		.08		.56	.314	$<.01$	ns
4	-.07	.13	.56		.08		.57	.318	$<.01$	ns
5	-.07	.13	.56		.08	.02	.57	.319	$<.01$	ns
6	-.07	.12	.56	-.02	.08	.02	.57	.319	$<.01$	ns

R is the multiple correlation coefficient; R^2 indicates the proportion of variance predicted; P-tot. is the significance of the total set of variables for each step; P-ent. is the significance of the last variable entered for each set; variable codes are found in appendix A.

SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

The purpose of this section is to briefly summarize the main points of the study, including the findings, conclusions drawn from the findings, implications derived from the findings, and recommendations.

Summary of the Study

The primary purpose of this study was to determine the relationship among attitudes high school principals held toward the handicapped and the high school work-study program and the effectiveness of work-study programs. Variables affecting these attitudes and the inter-relationships among attitudinal and rating variables were also studied.

The purpose for the study was to determine what variables affected attitudes toward the handicapped and the work-study program. Once the related attitudes are identified, a data base will exist for inservice training, preservice training, principal assignments, and other actions that might change or take advantage of existing attitudes of principals. A review of the literature revealed that work-study programs were effective in preparing handicapped students for work adjustment. The role of the principal was ascertained as being central in all educational programs, including programs for the handicapped. The literature also revealed the importance of attitudes on behavior and on educational programming for the handicapped. Although some studies revealed relationships between attitudes and certain variables such as age, contact, and knowledge, others did not find these relationships.

Data for the study were obtained from questionnaires mailed to 198 principals in Texas high schools with work-study programs. The sample

was composed of 98 principals from schools used in a study by the Research and Training Center in Mental Retardation, and 100 additional principals randomly sampled from all high schools in Texas with work-study programs. The questionnaires acquired data in three areas--background variables, principal attitudinal and rating variables, and program effectiveness variables. Background variables included age, sex, courses in special education, years as a principal, years as a principal in schools with work-study programs, and contact with mentally retarded persons in various relationships. Attitudinal and rating variables related to principals were composed of attitudes toward the mentally retarded, the learning disabled, and normal persons; attitudes toward the work-study program; and principal ratings of support and knowledge of work-study programs and their role performance in relation to work-study programs. Program effectiveness was determined by vocational adjustment coordinator ratings of factors in program effectiveness and role performances by various school personnel. Following data collection and tabulation, certain statistical analyses were conducted, including Pearson correlation, t test, and regression analysis.

Findings of the Study

After analyzing the collected data, all five null hypotheses were rejected.

Hypothesis Number 1

The first hypothesis stated that there would be no significant interrelationships among the eleven background variables. After Pearson correlation coefficients were computed for all combinations of background

variables, it was determined that the majority of the background variables were not significantly related. The background variable most often related to other background variables was number of years as a principal in a school with a work-study program. This correlated significantly with age ($p = 0.001$), number of courses completed in special education ($p = 0.05$), years as a teacher in a school with a work-study program ($p = 0.001$). Age also correlated with years as a principal ($p = 0.001$). Five variables measured indicated the amount of contact a principal had with a mentally retarded person. Of the ten possible correlations within this group of variables, seven were significant. Based on these results, hypothesis number 1 was rejected.

Hypothesis Number 2

This hypothesis stated that there would be no significant differences among attitudes toward the mentally retarded, the learning disabled, and normal persons. A semantic-differential consisting of 16 bi-polar adjective pairs was used to determine attitudes toward these three groups. A t test was used to analyze the data. Results indicated that significant differences did exist among the attitudes principals held toward the mentally retarded, the learning disabled, and normal persons. Attitudes toward normal persons were the most positive, with attitudes toward the mentally retarded being the least positive. On the basis of these findings, hypothesis number 2 was thus rejected.

Hypothesis Number 3

The third hypothesis, stating that there would be no significant interrelationships among principal attitudinal and rating variables, was also rejected. Attitudinal variables included attitudes toward the

mentally retarded, the learning disabled, normal persons, and the work-study program. Principal rating variables were the principals' knowledge and support of the work-study program, and his role performance in relation to the work-study program, as rated by the director of special education; and the role performance of the principal as rated by the vocational adjustment coordinator and the rehabilitation counselor. Most of these variables did not correlate significantly with each other; however, the major divisions of these variables were interrelated. That is, there were significant intercorrelations among attitudes toward categories of persons and among the ratings of principals' role performance, knowledge, and support of the work-study program. The only other significant correlation found to exist was between attitudes toward the mentally retarded and attitudes toward the work-study program ($p = 0.02$).

Hypothesis Number 4

Hypothesis number 4 predicted that there would be no significant relationship between principal attitudinal and rating variables and selected principal background variables. Statistical analyses revealed only three sets of variables with a significant relationship--years as a fellow employee with the parent of a mentally retarded child with attitudes toward the mentally retarded; years as a fellow employee with the parent of a mentally retarded child with attitudes toward the learning disabled; and years as a teacher in a school with a work-study program with the support given by the principal to the work-study program. Hypothesis number 4 was thus rejected. There appeared to be little relationship between most background variables and attitudinal and rating

variables related to principals. Stepwise multiple regression analyses were conducted to determine which background variables were the best predictors of principal attitudes and role performance. Results of the analyses revealed that the number of contacts with mentally retarded persons and years teaching experience in schools with work-study programs had the greatest effect on attitudes toward work-study programs. In predicting role ratings of principals, the best predicting variable was found to be whether a person had taught mentally retarded children or not.

Hypothesis Number 5

That no significant relationship would be found between attitudinal and rating variables related to principals and ratings of program effectiveness was hypothesis number 5. Program effectiveness was determined by two measures, factors in program effectiveness and role performance of key school personnel. Both of these measures were rated by the vocational adjustment coordinator. Analyses revealed no significant relationships between attitudes toward categories of persons and attitudes toward the work study program and either measure of program effectiveness. Conversely, all five of the ratings of the principal role performance, knowledge, and support were significantly related to both measures of program effectiveness. This indicates the strong relationship between principal behavior and the perceived effectiveness of the work-study program. Based on these results, hypothesis number 5 was rejected.

Stepwise multiple regression analyses were performed to derive prediction equations for the two measures of program effectiveness. The principals' rated role performance was the best predictor for both

measures of program effectiveness, with attitudes toward the work-study program being the second most important predictor.

Conclusions of the Study

On the basis of the findings of this study, and with an awareness of the limitations cited within, the following conclusions were drawn:

1. High school principals had more positive attitudes toward normal persons than those who were classified as learning disabled and mentally retarded, with attitudes toward the retarded being the least positive.

2. Background variables of high school principals were interrelated on a limited basis.

3. Attitudes held by high school principals toward the mentally retarded, the learning disabled, and normal persons were interrelated.

4. Attitudes held by high school principals toward the mentally retarded were related to attitudes toward the work-study program.

5. Ratings of principals' knowledge of and support of work-study programs by directors of special education and role performance by vocational adjustment coordinators, directors of special education, and rehabilitation counselors were interrelated.

6. The only principal background variables significantly related to the attitudes and ratings of principals were years as a fellow employee with the parent of a mentally retarded child to attitudes toward the mentally retarded and the learning disabled, and years as a teacher in a school with a work-study program to the support given by the principal to the work-study program.

7. The ratings of principals by the directors of special education, the vocational adjustment coordinators, and rehabilitation counselors

were related to work-study program effectiveness.

8. Number of contacts with mentally retarded persons was the variable found to be most predictive of attitudes toward the mentally retarded and the learning disabled.

9. Experience in schools with work-study programs as a teacher or principal was the variable most predictive of attitudes toward work-study programs.

10. Variables most predictive of program effectiveness were role performance ratings of principals and attitudes toward work-study programs.

Implications of the Study

Based on the findings and conclusions of the study, the following implications are suggested:

1. Somewhat negative attitudes by principals toward mentally retarded and learning disabled children could affect educational programs for these groups.

2. The negative attitudes held by principals toward the mentally retarded were found to be related to attitudes toward the work-study program. A positive change in attitudes toward the mentally retarded might effect a positive change in attitudes toward the work-study program.

3. Programs designed to change the attitudes principals hold toward the handicapped could have an impact on the attitudes held by principals toward work-study programs.

4. The number of special education courses completed by principals

had little effect on their attitudes toward the handicapped or the work-study program. This raises the question as to the germaneness of requiring that all regular educators take course work in special education.

5. Since the number of years a principal had been a teacher in a high school with a work-study program was found to be related to the support given by the principal to the work-study program, principals with this experience should possibly be considered to be the principal of a school with a work-study program over principals without considerable teaching experience in a school with a work-study program. This is also supported by the finding that experience in schools with work-study programs as a teacher and/or principal was the best predictor for attitudes toward work-study programs.

Recommendations

Based upon the findings, conclusions, and implications of this study, the following recommendations are made:

1. It is recommended that the study be replicated to validate the findings of this study.

2. It is recommended that a similar study be conducted, using student outcome variables as measures of program effectiveness rather than ratings by the vocational adjustment coordinator. If the real measure of program effectiveness is the impact the program has on students, then this must be considered in future studies to determine the effectiveness of work-study programs.

3. It is recommended that for similar studies undertaken in the future, data be collected from the entire sample precluding a

low number of cases with complete data for analysis.

4. It is recommended that similar studies be conducted in other states where the work-study program is an administrative arrangement to determine similarities or differences among states. Principals required by other states to perform different roles within work-study programs than are required in Texas might have significantly different relationships to work-study program effectiveness measures.

5. It is recommended that the results of this study be made available to state education agencies, state rehabilitation agencies, the vocational adjustment coordinators' organization, and colleges and universities with training programs for school administrators and special education specialists.

6. It is recommended that measures be taken to improve attitudes held by high school principals toward the handicapped, as these attitudes were found to be related to attitudes toward the work-study program and some literature reports attitudes related to behavior and program effectiveness.

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APPENDIX A

VARIABLE CODES

COURSE	Number of courses completed in special education
YRTWS	Number of years a teacher in a high school with a work-study program
YRPRWS	Number of years a principal in a high school with a work-study program
YRPRIN	Number of years a principal
YRPAR	Number of years a parent of a mentally retarded child
YRTCH	Number of years a teacher of a mentally retarded child
YRFR	Number of years a friend of a parent of a mentally retarded child
YREMP	Number of years a fellow employee of a parent of a mentally retarded child
YRACQ	Number of years acquainted with a mentally retarded person
PV7	The work-study program is a workable administrative arrangement for educating many secondary handicapped students.
PV8	Work-study students should receive a high school diploma that is different from those received by regular students.
PV9	Work-study students should be allowed to work off campus during school hours.
PV10	Work-study students are mainly trying to get through high school the easiest way possible.
PV11	Students who participate in the work-study program should usually be allowed to participate only in extracurricular activities different from those of the regular student body.
PV12	The work-study program benefits most students who participate in the program.
PV13	Work-study students need the vocational assessment, vocational counseling, and vocational training provided to them in their educational programming.

PV14	Work-study students should receive pay for work performed on the school campus.
PV15	Students who participate in the work-study program should be required to complete the same academic work as a non-work-study student in order to graduate.
PV16	The vocational adjustment coordinator needs at least one-half of each school day free from classroom duties to locate job stations and to supervise on-the-job work-study students.
PV17	Secondary school programs should provide educational and vocational services to handicapped children of secondary age regardless of the severity of the handicap.
PV18	If time permits, the vocational adjustment coordinator should attempt to influence drop-outs to return to school.
PV19	The vocational adjustment coordinator and/or the Texas Rehabilitation counselor should have an opportunity to explain the work-study program to the entire high school faculty.
PV20	In most cases, the Texas Rehabilitation counselor should not have a voice in individual work-study student programming.
PV21	The work-study program should be housed in a building separate from that housing the regular academic program.
PV22	The vocational adjustment coordinator should be required to spend at least one hour in the classroom each day.
MNM	Mean attitude toward the mentally retarded
MNL	Mean attitude toward the learning disabled
MNN	Mean attitude toward normal persons
PSUP	Principals' support of the work-study program
PKNOW	Principals' knowledge of the work-study program
MNPV	Mean attitude toward the work-study program
VS2	Role performance of the principal rated by the vocational adjustment coordinator
DIR	Role performance of the principal rated by the director of special education

CSR	Role performance of the princip l rated by the rehabilitation counselor
MNVF	Factors in program effectivenes
PRRAT	Mean of principals' role performance as rated by directors of special education, vocational adjustment coordinators, and vocational rehabili'ation counselors
SVF	Mean of factors in program effectivenes. variables or relationship between work-study program personnel and other school personnel; relationship between school personnel and rehabilitation agency personnel; and relationship between special education staff and vocational education staff
VST	Mean of staff role ratings of regular teachers, school counselors, and vocational educati n teachers
NOCON	Sum of number of contacts as friend of the parent of mentally retarded person, fellow employee of the parent of a mentally retarded person, and acquaintance of a mentally retarded person
YRWS	Total years of experience as a teacher or principal in a school with a work-study program